

1ST AND 2ND ORDERS										PROCESSES AND PROPERTIES INDEX										3RD AND 4TH ORDERS									
<p><i>BALLO, Rudolf</i></p> <p><i>13</i></p> <p>Brake faces and brake linings. Rudolf Balló, Ernő Molnár and László Várhelyi. Hung. 120,001, Feb. 1930. Asbestos fibers are intimately mixed with 3-20% of finely powdered Al, Cu or copper alloys, and phenolic resin is added. Dry wood flour (10%) may be added to the asbestos fibers. The mixt. is pressed to shape.</p>																													
<p>ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION</p>																													
SUBJECT										SUBJECT										SUBJECT									
<p>AL A S O H N T M S A O C A H</p>																													

HUNGARY/High Molecular Chemistry.

I

Abs Jour: Ref Zhur-Khim., No 2, 1959, 7027.

Author : IV: Dallo, Rudolf; Geczy, Istvan. V: Rethy, Eszter;
Geczy, Istvan. VI: Geczy, Istvan; Rethy, Eszter.

Inst :

Title : Synthetic Linear Polymers. IV. Changes in Process of
Condensation and in Mechanical Properties of Cast Resins
from Phenol-Formaldehyde Plastic Depending on Composition
of Reaction Mixture. V. Effect of Tetraalkyldiaminodiaryl
Activators on Polymerization of Mixture of Methylmethacry-
late with Polymethylmethacrylate in Presence of Benzoyl
Peroxide. VI. Effect of Concentration of Initiator and
Activator on Starting Rate of Block-Polymerization of
Methylmethacrylate.

Orig Pub: Magyar kem. folyoirat, 1957, 63, No 12, 351-357; 1958,
64, No 1, 19-23; 24-29; Makromolek. chem., 1958, 25,
No 3, 176-185; 186-198.

Card : 1/4

HUNGARY/High Molecular Chemistry.

I

Abs Jour: Ref Zhur-Khin., No 2, 1959, 7027.

IV. The dependence of properties of cast resins from phenol-formaldehyde plastic on the molecular ratio of phenol and formaldehyde was studied. It was established that the impact viscosity of a bar with an incision, the hardness, the rupturing elongation and the heat resistance of a resin prepared from a reaction mixture phenol - formaldehyde in the molecular ration of 1 : 2 are greater than those of resins prepared from said mixtures in the molecular ratio of 1 : 2 [sic!]. The magnitude of the above mentioned properties is the greatest in the case of resins prepared from the reaction mixture in the ratio of phenol to formaldehyde equal to 1 : 2.5 and in the presence of 1 - 1.5% of the catalyst. Further increase in the amount of the catalyst

Card : 2/4

HUNGARY/High Molecular Chemistry.

I.

Abs Jour: Ref Zhur-Khin., No 2, 1959, 7027.

influences the mechanical properties of the forming resins but insignificantly.

V. The accelerating effect of aromatic tertiary diamines (Michler's ketone, tetramethylbenzidine, tetramethyldiaminobenzhydrol, p-aminodimethylaniline, tetraethylbenzidine, p-aminodiethylaniline and others) on the polymerization of methylmethacrylate initiated by benzoyl peroxide was studied. The reaction rate was determined by measuring the internal friction of the reaction mixture with a microplastometer of Gepler [transliteration from Russian]

VI. The block-copolymerization of methylmethacrylate initiated by the system benzoyl peroxide - dimethyl-

Card : 3/4

HUNGARY/High Molecular Chemistry.

I.

Abs Jour: Ref Zhur-Khin., No 2, 1959, 7027.

aniline (diethylaniline, benzenesulfonic acid, p-toluenesulfonic acid) was studied at 20 and 40°. It was found that the initial reaction rate V can be expressed in the case of amine activators by the equation $V = K(PB)^{1/2}(A)^{1/2}$, where (PB) and (A) are the concentrations of benzoyl peroxide and amine, and the index n decreases with the increase in the temperature. In the case of sulfonic activators, the equation $V = K(PB)^{2/3} + C_0$ was found; the constant C_0 increases with the temperature. See RZHGhin, 1958, 31235 for the part III. - Author's summary.

Card : 4/4

BALLO, R.

Research work of the Chair of Plastic Materials and Rubber Industry at the
Budapest University of Technical Sciences. p. 53.

MAGYAR KEMIKUSOK LAPJA. (Magyar Kemikusok Egyesulete) Budapest, Hungary
Vol. 14, no. 2/3, Feb./Mar. 1959

Monthly list of East European Accessions (EFAI), IC, Vol. 8, No. 8,
August 1959.
Uncla.

BALLO, R.

History of plastic materials industry in Hungary, p. 96.

MAGYAR KEMIKUSOK LAPJA. (Magyar Kemikusok Egyesülete) Budapest, Hungary
Vol. 14, no. 2/3, Feb./Mar. 1959.

Monthly list of East European Accessions (EEAI), LC, Vol. 8, No. 8,
August 1959.
Uncla.

BALLO, Rudolf, prof., dr.; MAKADI, Jozsef; MOLNAR, Imre; SIPOS, Jozsef

Contributions to the data of strength of plastics. I. Plastics reinforced by fibres and fibre bundles. I. Acta chimica Hung 29 no.4: 463-474 '61.

1. Department for Plastics and Rubber Industry, Technical University, Budapest.

BALLO, Rudolf, prof., dr. (Budapest, XI., Muegyetem); HAJDUCZKY, G. (Mrs)
(Budapest, XI., Muegyetem); MAKADI, Jozsef (Budapest, XI.,
Budafoki ut 32/e); MOLNAR, Imre (Budapest, XI., Muegyetem)

Contribution to the data on strength of plastics. Pt.1.
Acta chimica Hung 39 no.1:129-144 '63.

ACCESSION NR: AT4012352

H/2502/63/039/002/0253/0270

AUTHOR: Ballo, R.(Ballo, R.)(Professor, Doctor); Molnar, Imre(Molnar, I);
Lakits, Maria(Lakich, M.); Biro, Odette(Biro, O.)

TITLE: The effect of formaldehyde on the strength properties of polyamide

SOURCE: Academia scientiarum hungaricae. Acta chimica, v. 39,
no. 2, 1963, 253-270

TOPIC TAGS: formaldehyde treatment, cross-linking, strength of polyamide,
polycaprolactam fiber, catalyst, completeness factor, breaking stress

ABSTRACT: The literature and patents describe many stereo-polyamide production methods differing greatly in mode of application and the properties of the products. The authors enumerate their many shortcomings, to be reduced or eliminated primarily by making the polyamide unreactive to phenol, most simply by cross-linking it with formaldehyde and thus raising the tensile strength, reducing elongation at rupture and partially or totally eliminating polyamide reactivity to phenol. Their investigation sought to: 1) choose the most

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ACCESSION NR: AT4012352

efficient catalyst from among those known from the literature, from breaking-load-elongation graphs clearly showing the degree of change; 2) determine the effect of the whole process on the strength, from similar graphs for the intermediate products, obtained in the various phases of the chosen method of formaldehyde treatment; 3) determine the change in the completeness factor of the products obtained in the various phases of the chosen catalytic process. They used untwisted and undressed bundles of fibers 40/9 denier thick of "perlon"-type oriented polycaprolactam. There are sections on "Choice of a suitable method of treating with formaldehyde," "Study of the cross-linking process with ammonium chloride," and "Change in the completeness factor in the process of the cross-linking operation." They found ammonium chloride to be the best of the catalysts tested. The tensile strength increased 18.3%, the section of proportional elongation 42.0%, and the total elasticity factor 44.8%, while the elongation at rupture diminished 18.4%, the completeness factor 29.5% and the breaking stress 32.3%. The cross-linked fiber does not dissolve in phenol, but only swells; however, it absorbs twice as much phenol from the phenol solution as does untreated fiber. The tests convinced the authors that the fiber is cross-linked uniformly throughout the cross-section.

Card 2/3

ACCESSION NR: AT4012352

Orig. has 17 graphs, 3 tables and 7 formulas.

ASSOCIATION: Kafedra plastmassovoy i rezinovoy promyshlennosti budapeshtskogo Politeknicheskogo Instituta, Budapest (Plastic and Rubber Industry Department of the Budapest Polytechnic Institute)

SUBMITTED: 26Jun62

DATE ACQ: 26Feb64

ENCL: 00

SUB CODE: CH

NO REF SOV: 003

OTHER: 006

Card 3/3

BALLY, R.J., ing.

"Nomograms for dimensioning the trapezoid and rectangular
canals used for correcting the torrents" by S. Munteanu,
I. Ciortuz, V. Pirau. Reviewed by R.J. Bally. Hidrotehnica 8
no. 7:271-272 J1'63.

BALLO, T. 1947

(Az Orszagos Kozegeszseguguyi Intezet and a Szent Istvan-Korhaz Gyermekosztalyanak)

"A New Method of Determination of Penicillin."

Orvosok Lapja, Budapest, 1947, 3/28(1065-1067)
Abst: Exc. Med. iV, Vol. 11, No. 1, p. 12

C.A. DALLO, T.

117

Penicillin content of blood of persons suffering from le-
terus. Zoltán Alföldy and Tibor Balló. *Orvosi Hetilap* 90, 2
108-11 (1949).—Patients suffering from leterus obtained in-
jections of 300,000 units of penicillin and the blood serum
penicillin levels were detd. 4, 8, 14, and 24 hrs. later. The
penicillin levels of patients with high blood sedimentation
rates (above 30 mm./hr.) were even higher than that in
normal persons. Also high levels were observed in alcoholics,
patients in whom the Weltman test showed a ppt. in the
tubes no. 4-6, and in patients suffering from circulatory
disturbances. Other persons showed low penicillin levels
parallel to the strength of their Takata reaction.
István Fimlly

11-115

BALLO, T.; EGYED, M.; TELEGDI, I.

Surgical and therapeutic (PAS) management of tuberculous empyema.
Tuberk. kerdesei 4 no.4:5-10 Dec 51. (CIML 21:5)

1. Assistant physician for Ballo; resident physician for Egyed; Head physician for Telegdi. 2. Margonhegy Hospital (Consiliarius--Prof. Doctor Ferenc Kovats), Fourth District General Hospital (Director and Head Physician--Dr. Rudolf Devenyi), and Koranyi Tuberculosis Hospital (Director and Head Physician--Dr. Pal Dessauer).

LOBIAS, Gyorgy, Dr.; BALLO, Tibor, Dr.; KEMENYVARI, Jozsef, Dr.

Influence of colostrum on the staphylococcal a-antitoxin titer in newborn. Orv. hetil. 98 no.36:983-986 8 Sept 57.

1. A Human Oltoanyagtermelo es Kutato Intezet (igazgato: Veres Gabor dr.) es a Fovaros Arpad Koskorhas (igazgato Lorand Sandor dr. kandidatus) Gyermekosztalyanak (foorvos: Ballo Tibor dr.) kozlemenye.

(INFANT, NEWBORN, blood in

Micrococcus pyogenes a-antitoxin titer, comparison with maternal antitoxin titer & role of colostrum in transm. (Hun))

(MICROCOCCLUS PYOGENES

a-antitoxin titer in newborn inf., comparison with maternal antitoxin titer & role of colostrum in transm. (Hun))

(COLOSTRUM

in transm. of maternal Micrococcus pyogenes a-antitoxin to inf. (Hun))

JANKO, Maria, Dr.; BALLO, Tibor, Dr.; KENDEFI, Agnes, Dr.; LORANT, Olga, Dr.

Examinations on the effectiveness of Hungarian made piperazine adipate against *Enterobius vermicularis* and *Ascaris lumbricoides*. Orv. hetil. 99 no.24:803-805 15 June 58.

1. Az Országos Kószegességügyi Intézet (főigazgató: Bakács Tibor dr.) Parazitológiai Osztályának (osztályvezető: Zoltai Nándor dr.) és a Fovárosi Arpad Kórház (igazgató: Lorand Sándor dr. kandidátus) Csécsémos Gyermekeosztályának (főorvos: Ballo Tibor dr.) közleménye.

(ASCARIASIS, ther.

piperazine adipate in *Ascaris lumbricoides* infect. (Hun))

(OXYURIASIS, ther.

piperazine adipate (Hun))

(PIPERAZINES, ther. use

piperazine adipate in *Ascaris lumbricoides* infect. & oxyuriasis (Hun))

DOBIAI, György, Dr.; BALLO, Tibor, Dr.

Staphylococcal a-antitoxin titer of non-pyodermal infants, children and adults. Orv. hetil. 99 no.28:950-954 13 July 58.

1. A Human Oltoanyagtermelo es Kitato Intezet (igazgato: Veres Gabor dr.) es a Fovarosi Arvas Kozkorhaz (igazgato: Lorand Sandor dr. Kandidatus) Gyermekosztalyanak (feorvos: Ballo Tibor dr.) kozlemeny.

(MICROCOCCUS PYOGENES, immuel.

a-antitoxin titer of non-pyodermal inf., child & adults
(Hun))

DOBIAS, Gyorgy, Dr.; BALLO, Tibor, Dr.; KEMENYVARI, Jozsef

Staphylococcal a-antitoxin titer infantile childhood and adult pyoderms. II. Orv. hetil. 100 no.11:394-399 15 Mar 59.

1. A Human Oltoanyagtermelo es Kutato Intezet (Igazgato: Veres Gabor dr.) a Fovarosi Arpad Koskorhaz (igazgato: Lorand Sandor dr. kanditatus) Gyermekestalyanak (foorvos: Ballo Tibor dr.) koslemenye.

(PYODERMA, immunol.)

Micrococcus pyogenes a-antitoxin titer in infantile childhood & adult pyoderms (Hun))

(MICROCOCCUS PYOGENES, immunol.

a-antitoxin titer in infantile childhood & adult pyoderms (Hun))

DOBIAS, Gyorgy, dr.; BALLO, Tibor, dr.; KEMENYVARI, Jozsef, dr.

III. Direct demonstration of staphylococcal alpha toxin in pus.
Clinical significance of the methos. Orv.hetil. 101 no.28:983-985
10 J1 '60.

1. Human Oltoanyagtermelo es Kutato Intezet, Fovarosi Arpad
Gyermekekorszaly.

(STAPHYLOCOCCUS)

(TOXINS AND ANTITOXINS)

(EXUDATES AND TRANSUDATES microbiol)

BALLO, Tibor, dr.; LORANT, Olga, dr.; ZOLTAI, Nandor, dr.; JANKO, Maria, dr.;
SZECSEY, Gyorgy, dr.

Clinical observations on the pathological role of *Entamoeba histolytica* in Hungary. Orv.hetil. 102 no.7:303-306 12 F'61.

1. Fovarosí Arpad Kórház, Csecsemő- és Gyermekosztály, Országos
Közegészségügyi Intézet, Parazitológiai Osztály és a Fovarosí
Kórház IV. kerületi Laboratóriuma.
(AMEBIASIS epidemiol)

DOBIAS, Gyorgy, dr.; BALLO, Tibor, dr.; KEMENYVARI, Jozsef, dr.

On etiological and clinical aspects of staphylococcal toxicosis in infants. Gyermekgyógyászat 13 no.3:73-84 Mr '62.

1. A Fovarosi IV ker. Tanacs Korhazanak Laboratoriuma es a Forvarosi Arpad Korhaz Gyermekosztalya.

(STAPHYLOCOCCAL INFECTIONS in inf & child)

BALLO, Tibor, dr.; DOBIAS, Gyorgy, dr.; KIMENYVA: 1 Jozsef, dr.

Serotherapy of infantile staph infections. Orv. hetil. 106
no.25:1161-1165 20 Ja '65

1. Fovarosi IV. ker. Tanaos, Arpad Korhaz, Gyermekosztaly es
Orvostovabbkepzo Intezet, Laboratorium Vizsgalatok Tanszeke.

KENDE, Eva; BALLO, T.; FERENCZI, E.

A new phage type of *Staphylococcus aureus* associated with an outbreak of pemphigoid. *Acta microbiol. acad. sci. Hung.* 12 no.2:131-139 '65.

1. Public Health Station (Director: V. Kapos) and Department of Paediatrics, Arpad Hospital (Director: A. Farkas), Budapest. Submitted November 12, 1964.

ACC NR: AP6028252

SOURCE CODE: HU/0028/65/012/002/0131/0139

AUTHOR: Kende, Eva (Budapest); Ferenczi, Endre (Budapest); Ballo, Tibor (Budapest)

ORG: [Kende; Ferenczi] Public Health Station/headed by V. Kapos (Egeszsegugyi

Allomas); [Ballo] Department of Pediatrics, Arpad Hospital/headed by A. Karkas,
Budapest (Arpad Korhaz, Gyermekgyogyaszati Osztaly)

TITLE: New phage type of Staphylococcus aureus related to an outbreak of pemphigoid

SOURCE: Academia scientiarum hungaricae. Acta microbiologia, v. 12, no. 2, 1965,
131-139

TOPIC TAGS: bacteriophage, epidemiology, bacteria, bacteriology, man, penicillin,
tetracycline, streptomycin, neomycin

ABSTRACT: A staphylococcal phage type, lysed only by a new phage, is described.
The new phage, 42 D/1, was obtained by adapting phage 42 D to the causative agent
of a pemphigoid outbreak at a newborn ward. During 41 weeks of observation, a
total of 5689 samples were collected from the newborn, their mothers and the staff
of which 3088 were positive for staphylococci. Phage type 42 D/1 occurred in
44.7 per cent of the isolated strains. The new phage type was isolated from 81.3
per cent of the pemphigoid specimens, 62.4 per cent of the nasal swab samples of
diseased infants and 39.2 per cent of the swab samples taken from infants free of
pemphigoid. The curve showing the incidence of carriers of this dangerous phage
type showed several periodic peaks and lows. The number of pemphigoid cases was
lowest when the dangerous type was less frequent among staphylococcus carriers,
independently of their total number. Of the 1238 42 D/1 strains tested, 99.8
per cent were resistant to penicillin, 87.9 to streptomycin, 12.6 to chloramphenicol,
21.3 to tetracyclines, 3.4 to neomycine. Orig. art. has: 4 figures and 4 tables.
[Orig. art. in Eng.] [JPRS: 33,500]

SUB CODE: 06 / SUBM DATE: 12 Nov 64 / ORIG REF: 004 / OTH REF: 017

Card 1/1

0917

1837

HUNGARY

JANKO, Maria, Dr, BALLO, Tibor, Dr, IORANT, Olga, Dr, SZECSEY, Gyorgy, Dr, ZOLTAI, Nandor, Dr; National Public Health Institute, Department of Parasitology (chief director: BAKACS, Tibor, Dr) (Orszagos Kozegeszsegugyi Intezet, Parazitologiai Osztaly), Arpad Hospital, Pediatric Ward (chief physician: BALLO, Tibor, Dr) (Arpad Korhaz, Gyermekosztaly), and Medical University of Budapest, III. Medical Clinic (director: GERO, Sandor, Dr) (BOTE -- Budapesti Orvostudomanyi Egyetem, III. Belgyogyaszati Klinika).

"The Incidence of Entamoeba Histolytica Infections Within Families, (Communities), in Hungary."

Budapest, Orvosi Hetilap, Vol 107, No 11, 13 Mar 66, pages 502-504.

Abstract: [Authors' Hungarian summary] Among the 338 members of 105 families, 63 per cent gave positive results in comparison with a 26 per cent positivity found among hospitalized cases which were tested because their clinical symptoms gave rise to a suspicion of the presence of infestation. These data confirm the theory that E. histolytica infestation is characterized by a familial concentration. This concentration must be taken into consideration in the diagnosis of the disease, the setting up of epidemiological measures and in therapy as well. In practice this means that, in the presence of a diagnosis of E. histolytica, every member of the given family or closely knit community must be tested. Those found to be positive must under-

ACC NR. 111

/X/11/11/11/004/0284/0286

AUTHOR: Boda, E.; Ballo, V.

ORG: Turciany Machinery Works, Martin (Turcianske strojárne)

27
B

TITLE: Contribution to the study of shell type fractures in steel

SOURCE: Hutnicke listy, no. 4, 1965, 284-286

TOPIC TAGS: steel, material fracture, aluminum nitride, metal property

ABSTRACT: The fracture surfaces in the areas where shell-like fracture surfaces occur are covered, to a great extent, by aluminum nitride. It does not seem probable that the content of N would not influence the occurrence of shell-like fractures. The decrease of plastic properties of the material is no doubt due to the presence of certain forms of nitrides. Orig. art. has: 3 figures. [JPRS]

SUB CODE: 11 / SUBM DATE: none / ORIG REF: 005 / OTH REF: 005
SOV REF: 001

Cord 1/1

CA

Poisoning and regeneration of the surface of adsorbents.
 K. V. Turchikova and A. P. Balala. *Doklady Akad. Nauk S.S.S.R.* 78, 247-50 (1980). — On an aluminosilicate catalyst (Al_2O_3 80, SiO_2 20%), part of the vapor-phase-adsorbed MeOH was found to be adsorbed irreversibly, i.e. not to be desorbed on prolonged pumping without heating; the adsorptive capacity is not yet restored on subsequent 8-7 hrs. pumping with heating at 400° , but the wt. of the catalyst and its adsorptive capacity are restored in 30 hrs. at 400° . The fraction of MeOH adsorbed irreversibly increases by 30% with the relative pressure p/p_0 increasing from 0.1 to 1. With a medium-porosity Al_2O_3 gel, of sp. surface area 235 sq. m./g., the original wt. was restored after a few hrs. at 400° , whereas the wt. of a coarse SiO_2 gel, of sp. surface area 530 sq. m./g., was not restored even after 3 days. With regard to stability of the bond of MeOH with the solid surface, the aluminosilicate catalyst evidently is intermediate between the Al_2O_3 and SiO_2 gels. Gas evolution in the catalytic conversion of MeOH to Me_2O at 400° under 1 atm. was weakest on the SiO_2 gel (CO 11.0, unatd. 6.8, CO 17.0, H_2 23.8, atd. 41 vol. %), as against (8, 33, 11, 3.7, 42.0 vol. %) on the aluminosilicate and (0.3, —, 34.3, H_2 + atd. 65.4) on the Al_2O_3 gel. Heating at 400° of the aluminosilicate catalyst having adsorbed 0.88 millimol. MeOH/g. at 30° gave the following balance: gas pumped off, CO 8.1, CO_2 20.3, CO 19.6, C_2H_4 51%; of the originally adsorbed 0.88 millimol. MeOH/g., 0.34 was converted to gases, 0.08 to C, and 0.3 was recovered unchanged. After that, addnl. 30 hrs. pumping at 400° resulted in complete restoration of the adsorptive capacity. The irreversible adsorption at 30° is thus linked with the formation of surface ethers between the OH groups of the catalyst surface and MeOH, with elimination of H_2O . This was confirmed directly by the detection of 0.04% H_2O in the MeOH desorbed from the aluminosilicate catalyst.
 N. Thon

BALLOD, A. P.

"Chemical Properties of the Surface of Aluminosilicates and Their Catalytic Activity." Sub 19 Jan 51, Moscow Order of Lenin State University M. V. Lomonosov. *Chem. Chemical Ind.*

Dissertations presented for science and engineering degrees in Moscow during 1951.

SO: Sum. No. 480, 9 May 55

CA

2

Kinetics of hydrocarbon conversions in a broad range of space velocities. A. P. Ballad, L. V. Gurych, V. V. Korobov, and A. V. Ffost (Moscow State Univ.). *Vestnik Moskov. Univ.* 6, No. 2, Ser. Fiz.-Mat. i Estestven. Nauk No. 1, 67-69 (1951). The applicability of the (integrated) kinetic equation $\ln[1/(1-y)] = \beta \omega y + \alpha$, characteristic of reactions inhibited by their products, was tested in a broad range of space velocities ω (l./l. catalyst/hr.) varied by variation of the length of the catalyst column; y is the degree of conversion, and α and β are consts. The test is linearity of the plot of $\ln[1/(1-y)]$ as a function of ωy . Cracking of decahydronaphthalene (I) on activated Askan clay (30 min. runs) was found to obey this rate equation at 300° ($\alpha = 0.31-0.94$, $\beta = 0.51-0.29$), 400° (0.40-2.50, 0.51-0.18), and 500° (0.305-2.68, 0.78-0.24), with $\alpha = 0.088, 0.129$, and 0.20, resp., and $\beta = 0.85$, const. at all 3 temps. The apparent activation energy is 5.0 kcal./mole. On an aluminosilicate cracking catalyst (SK-78.18, Al₂O₃ 10.75, CaO 0.47, MgO 1.86%), at 400°, the equation holds between $\omega = 0.6$ and 4.0, with $\alpha = 0.5$, $\beta = 0.97$. How-

ever, it fails at $\omega = 4$, the plot of $\ln[1/(1-y)]$ as a function of ωy changes from an upward sloping straight line into a descending vertical line parallel to the axis of ordinates, and the plot of y as a function of $1/\omega$ becomes a straight line passing through the origin. In that range of high ω , the reaction evidently becomes zero-order and is described by $\omega y = 0.16$. The suspicion that this change of kinetics might be due to a change of the Reynolds no. (which, in the cracking of I at 400°, varied from 2.8 to 26.0) was tested by the reaction of redistribution of H in an unsatd. cracking-gasoline fraction b. 100-180° in soln. in $\text{H}_2\text{O}:\text{Me}_2\text{CO} = 1:1$, followed by the decrease of the iodine no., at 400° on the aluminosilicate catalyst in the form of 4×4 -mm. granules in a reactor of 15-mm. diam. at a const. $\text{Re} = 17$. Despite this constancy, the reaction still becomes zero-order at high ω , above $\omega = 2.0-2.6$ ($y = 0.67-0.80$), and then follows the equation $\omega y = 1.81$. An increase of Re from 13 to 70 at const. ω had no effect on y . Consequently, the cause of the changeover to zero order must be chem. A clue was provided by the observation that, with I, the compn. of the products underwent a change at high ω ; the low-b. fractions disappeared, and the catalyzate began to boil at 150-160°. On the basis of information in the literature, it is assumed that the first reaction of I consists in an isomerization to products contg. cyclopentane rings, and that the subsequent cracking bears on such isomerization products; this, among others, is borne out by the predominance, in the gaseous cracking products, of isobutane over

over

BALLOD, A. P.

PA 192129

USSR/Chemistry - Petroleum
Catalysts

Mar/Apr 51

"Nature of the Catalytic Action of Aluminosilicates," A. P. BalloD, K. V. Topchilyeva, Moscow

"Uspekh Khim" Vol XX, No 2, pp 161-175

From review of USSR and non-USSR investigations of natural and synthetic aluminosilicate catalysts of cracking, alkylation, polymerization, isomerization, redistribution of H in hydrocarbons, concludes that catalyst specimen should have that number of Si atoms replaced by Al in Si-O

192129

USSR/Chemistry - Petroleum
Catalysts (Contd)

Mar/Apr 51

tetrahedra which gives max acidity; high cation-exchange capacity; and of pore size distribution with respect to pore radii appropriate to reaction desired.

102120

CA

2

Catalytic activity and selectivity of aluminosilicates. A. P. Balod, I. V. Patskevich, A. S. Fel'dman, and A. V. Frost (Moscow State Univ.). *Doklady Akad. Nauk S.S.S.R.* 79, 809-12 (1961).—The theory that the main catalytic activity of aluminosilicates at an approx. compn. $Al_2O_3:SiO_2 = 30:70\%$ is due to a montmorillonite-type compd. with acid properties (cf. preceding abstr., Topchieva and Paschenkov, C.A. 41, 72114; 43, 18587) is confirmed by results of poisoning expts. with alkali and alk. earth-metal ions, in dealkylation of iso-PrPh at 400-500°. The reaction is splitting to $C_{11}H_7$ and $C_{11}H_9$, followed by hydrogenation of $C_{11}H_7$ to $C_{11}H_{16}$ through redistribution of H; the cracking gas at 800° is 94% $C_{11}H_7 + C_{11}H_9$. The catalyst, Al_2O_3 83.9 + SiO_2 66.1%, was heated to 800°, treated with 0.01-0.5 N solns. of alkali, dried and again heated at 800°. The kinetics of the dealkylation is described by $\ln[1/(1-y)] = \alpha + \beta \ln y$, where α = space velocity in liquid l./h. catalyst/hr., y = degree of conversion, α is proportional to the rate const., and β is the inhibition const. (cf. Frost, C.A. 42, 2637e). With increasing concn. of NaOH or Ca(OH)₂, α falls very nearly linearly, and not exponentially as would correspond to a heterogeneity of the active centers of the catalysts. The linear relation rather points to a homogeneity of the active centers. The dependence of the ratio of the amts. of $C_{11}H_7$ and $C_{11}H_9$ in the gas on the degree of dealkylation is the same with catalysts poisoned with alkali to different degrees, and catalysts inactivated by dehydration in

reverse. In other words, the rate of hydrogenation of $C_{11}H_7$, owing to redistribution of H, is independent of the degree of poisoning. Consequently, poisoning is not selective with respect to either of the 2 consecutive reactions, dealkylation and hydrogenation, and this confirms the identity of the active centers for the 2 stages. Detns. of the sp. surface area at various degrees of poisoning showed that the Brunauer-Emmett-Teller surface area s , detd. by adsorption of MeOH, decreases with increasing poisoning, whereas the Kiselev surface area s' of the polymol. film formed at the beginning of the adsorption hysteresis, remains practically unchanged. In this instance, $s > s'$, i.e. the cumene mols. have access to the whole area s' and only to part of the area s . In the alkali-poisoning of a catalyst Al_2O_3 29.0 + SiO_2 70.1%, a decrease of s by a factor of 10, and of s' by a factor of 2, caused y to decrease only by a factor of 2. A sample poisoned by 1.7 millimoles Na/g., with $s = 120$ sq. m./g., was completely inactive. If the inactivation were due to a decrease of s , one should expect, at the worst, only a decrease of the activity by 20%, and not all the way down to zero. Consequently, the sp. surface area plays a relatively minor role in the poisoning. The area accessible to the cumene mols. is much more nearly detd. by s' than by s . Detns. of the distribution of pore vol. over the effective radii show that with increasing degree of poisoning by alkali, and probably owing to soln. of part of the fine pores, the relative vol. of coarse pores is somewhat increased; this slight change of the pore-size distribution should not cause a decrease of the activity on poisoning. Consequently, the poisoning by Na^+ and Ca^{++} ions can be due only to replacement of the H^+ ions by the metal ions. N. Thon

THIS ENDS
RERUN CARDS.

BALLOD, A. P.

USSR/Chemistry - Catalysts

21 Jun 53

"Adsorption of Boron Trifluoride on Simple and Mixed Metal Oxides," Acad A.V. Topchiyev and A. P. Ballod

DAN SSSR, Vol 90, No 6, pp 1051-1054

Studied the adsorption of BF_3 on $\text{Al}_2\text{O}_3\text{-CrO}_3$, SiO_2 , Al_2O_3 , and $\text{Al}_2\text{O}_3\text{-SiO}_2$ of the Houdry type. Determined isotherms of the adsorption of benzene on the above catalysts at 20° . Then the benzene was removed by reducing the pressure to 0.005 mm and BF_3 was adsorbed onto the same catalysts. Desorption isotherms were also plotted which indicated that the adsorption is non-reversible, and hence the bond between the surface of the catalyst and BF_3 a chemical one.

269T5

USSR/ Chemistry Catalysis

Card : 1/1

Authors : Topchieva, K. V., Ballod, A. P., Patsevich, I. V., and Rtishcheva, I.

Title : Conversion of cyclohexane over aluminum silicate catalysts with various Al_2O_3 and SiO_2 content in conditions eliminating cracking. Selective poisoning with Na ions.

Periodical : Izv. AN SSSR, Otd. Khim. Nauk., 3, 478 - 483, May - June 1954

Abstract : Preliminary results obtained in the study of the catalytic effect of aluminum silicates on skeletal isomerization and polymerization of hydrocarbons, are presented. The kinetics of three simultaneous reactions - polymerization, hydrogen redistribution and isomerization - was investigated in conditions eliminating cracking. It is shown that cyclohexene conversion occurs on active centers of two types. The process of hydrogen redistribution and cyclohexene isomerization are described. The poisoning of the aluminum silicate for H-redistribution and isomerization is explained by the adsorption of Na-ions on the surface of the catalyst. Eighteen references: 17 USSR, 1 USA. Tables, graphs.

Institution : Acad. of Sc. USSR, Petroleum Institute and the M. V. Lomonosov State Univ., Moscow

Submitted : June 22, 1953

ZUL'FUGAROV, Z.G.; BALLOD, A.P.

Relation between the bleaching capacity and the structure of
natural and activated clays. Azerb.neft.khoz. 36 no.1:34-36
Ja '57. (MLRA 10:5)

(Clay)

5(4)

AUTHORS:

Ballod, A. P., Molchanova, S. I., SOV/20-123-3-23/54
Topchiyev, A. V., Academician, Fedorova, T. V.,
Shtern, V. Ya.

TITLE:

Three Types of Kinetic Curves of the Interaction of Methane
and Propane With Nitrogen Dioxide (Tri vida kineticheskikh
krivyykh vzaimodeystviya metana i propana s dnuokis'yu azota)

PERIODICAL:

Doklady Akademii nauk SSSR, 1958; Vol 123, Nr 3,
pp 464-467 (USSR)

ABSTRACT:

The kinetics of methane and propane nitration by means of
nitrogen dioxide was carried out by the authors in a vacuum
device with a self-recording colorimetric photometer; thus,
the consumption of nitrogen dioxide was recorded. A diaphragm
gauge recorded the increase in pressure. According to the
composition of the reaction mixture, the initial pressure
and temperature 3 types of the reaction course were determined:
a) slow reaction (Figs 1a, 2a). A continuous increase in the
total pressure up to saturation and a corresponding
continuous NO_2^- consumption up to 30-50 % (Fig 2a) is a
typical feature of this process. In propane the curve of

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Three Types of Kinetic Curves of the Interaction of
Methane and Propane With Nitrogen Dioxide

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increase at 250-300° is S-shaped if there is no high initial pressure and the mixture consists of $C_3H_8 : NO_2 = 1 : 1; 2 : 1$ and $4 : 1$ (Fig 2a). The total pressure sometimes remains practically constant up to 30-40 seconds, although NO_2 is rapidly consumed. In methane nothing of that kind was observed. b) Reaction with a maximum (Figs 1b, 1v, 2v). With an increase in the initial pressure or in temperature the reaction of type a (at constant composition of the mixture) passes to a reaction with a maximum. After a period of 1.5-7 seconds (according to initial conditions) during which an autocatalytic reaction is seen, the pressure increases abruptly, while NO_2 is consumed to a considerable extent or practically completely. The abrupt increase in pressure has no relation with a visible flash. Afterwards, a rapid pressure decrease occurs, sometimes (in the case of propane) down to the initial pressure. It is followed by a slow increase in pressure up to saturation. Figure 2 b shows limiting cases between

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Three Types of Kinetic Curves of the Interaction of Methane and Propane With Nitrogen Dioxide 80V/20-123-3-23/54

reactions of type a and type b. c) Reaction with flash (Figs 1g, 2g). At a further increase in the initial temperature and initial pressure the reaction passes to an actual explosion process. The entire reaction practically ends in a flame, wherein NO_2 is completely consumed. The intensity of the shining increases at constant temperature with the initial pressure, wherein the pink-reddish-lightblue coloration is turning white-yellow. No luminiscence (Ref 1) was found. The ratio of the pressure increases at the moment of the completed NO_2 consumption to the NO_2 initial pressure in the mixture $\Delta P_1/P_{\text{initial NO}_2}$ for the reaction between CH_4 and NO_2 depends - within the limits of the corresponding mixture - neither on the type of the reaction kinetics nor on the initial pressure, nor on temperature. This ratio varies insignificantly with the composition of the mixture. On the other hand, $\Delta P_1/P_{\text{initial NO}_2}$ for the reaction between C_3H_8 and NO_2 is influenced by the

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Three Types of Kinetic Curves of the Interaction of
Methane and Propane With Nitrogen Dioxide

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reaction kinetics and composition of the mixture. This
ratio is the lowest for the reaction of type b and the
highest for type c. There are 4 figures, 1 table, and
1 reference.

SUBMITTED: July 18, 1958

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5(2,3)

AUTHORS:

Fedorova, T. V., ~~Ballod, A. P.~~ SOV/20-123-5-25/50
Topchiyev, A. V., Academician, Shtern, V. Ya.

TITLE:

On the Question of the Kinetic Mechanism of Interaction
Between Methane and Nitrogen Dioxide (K voprosu o kinetiches-
kom mekhanizme vzaimodeystviya metana s dvuokis'yu azota)

PERIODICAL:

Doklady Akademii nauk SSSR, 1958, Vol 123, Nr 5,
pp 860 - 863 (USSR)

ABSTRACT:

It appears highly probable that the nitrification of alkanes
by NO_2 in the vapor phase occurs with the participation
of free radicals and not on the basis of a molecular mechanism.
So far, however, it could not be clarified whether this is
a free radical process or a chain process. The present paper
is concerned with the solution of this problem. In earlier
paper (Ref 10), the authors differentiated among three types
of methane nitrification: a) slow nitrification, b) nitrifi-
cation with a maximum, and c) nitrification with inflamma-
tion. In the present paper the experimental results for the
reaction a) (Fig 1) at low conversion degrees are described.

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On the Question of the Kinetic Mechanism of Interaction SOV/20-123-5-25/50
Between Methane and Nitrogen Dioxide

The order of the reaction, both with regard to CH_4 (Fig 2) and with regard to NO_2 (Fig 3), is practically equal to one.

The determination results of the energy of activation E_{Nitr} are presented in figure 4. The tangent of the inclination angle of the straight line corresponds to the value $E_{\text{Nitr}} = 30.5$ Kcal/Mol. In the present case of a process consisting of two parallel reactions - a) nitration of a hydrocarbon, and b) dissociation of NO_2 - the E_{Nitr} value could be determined in another independent way, viz. from the comparison of the velocities of these two reactions. The steric factor of the methane nitration by means of NO_2 was found to be $f_{\text{Nitr}} = 0.5$. In the course of further experiments, it could be clarified that the reaction is homogeneous. The energies of activation, calculated by the authors for the reaction $\text{RH} + \text{NO}_2 \rightarrow \text{R} + \text{HNO}_2$ (1), were found to be very close to those determined experimentally. Therefore, it can be concluded that the kinetic rules found by the authors depend on the reaction (1)

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On the Question of the Kinetic Mechanism of Interaction SOV/20-123-5-25/50
Between Methane and Nitrogen Dioxide

This reaction also constitutes the decisive stage of the process as a whole. I. V. Patsevich confirmed these results by employing a different method. Thus the nitrification mechanism of methane can be interpreted as follows: A complicated introductory production of the alkyl radicals according to reaction (1) is followed by an interaction of these radicals with NO_2 . It apparently occurs with a low energy of activation according to the reactions (a) and (b), as NO_2 is a molecule similar to a radical. It can therefore be stated that the energy of activation 30 Kcal/Mol is the energy of activation of the introductory reaction. There are 4 figures, 1 table, and 17 references, 5 of which are Soviet.

ASSOCIATION: Institut nefiti Akademii nauk SSSR (Petroleum Institute of the Academy of Sciences of the USSR)

SUBMITTED: July 18, 1958

Card 3/3

5(3), 5(4)

AUTHORS: Ballod, A. P., Molchanova, S. I., Patsevich, I. V.,
Topchiyev, A. V., Shtern, V. Ya.

SOV/75-14-2-8/27

TITLE: Polarographic Analysis of the Liquid Products of Nitration
of Alkanes With Nitrogen Dioxide (Polyarograficheskiy analiz
zhidkikh produktov nitrovaniya alkanov dnuokis'yu azota)

PERIODICAL: Zhurnal analiticheskoy khimii, 1959, Vol 14, Nr 2, pp 188-197
(USSR)

ABSTRACT: The gas-phase nitration of alkanes (C_1 to C_3) with nitrogen
dioxide yields a complex mixture of products the quantitative
analysis of which is very difficult. In the reaction mixture
nitroparaffins, alkyl nitrites, alkyl nitrates, aldehydes,
alcohols, alkanes, alkenes, carbon monoxide, carbon dioxide,
nitric oxides, and water were found. The nitric oxides,
carbon oxides, and hydrocarbons may be determined by the usual
chemical or chromatographical methods. For this purpose the
liquid reaction products (nitroparaffins, alkyl nitrites,
alkyl nitrates, aldehydes, and alcohols) must be separated
beforehand by dissolving them in water. In the present paper

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SOV/75-14-2-8/27

Polarographic Analysis of the Liquid Products of Nitration of Alkanes
With Nitrogen Dioxide

a quantitative polarographical method of analyzing liquid nitration products in the absence and in the presence of NO_2 is described. The method devised makes it possible to determine the sum of nitroparaffins, the sum of alkyl nitrites, and the determination of formaldehyde and of the sum of higher aldehydes in the absence and in the presence of NO_2 . The determination of formaldehyde in a 0.2 molar solution of LiOH is possible if the concentration of NO_2 is below 0.01 - 0.05 mol/l. If alkyl nitrites and alkyl nitrates are simultaneously present, only the total sum of these compounds can be determined. The authors obtained for the first time a polarogram of methyl nitrolic acid. In a 0.2 molar solution of LiOH the polarogram of the methyl nitrolic acid consists of two waves with half-wave potentials $\pi_{1/2} = -0.6 \text{ v}$ and $\pi_{1/2} = -1.1 \text{ v}$ with reference to a saturated calomel electrode. In a buffer solution of 0.2 molar NaOH

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SOV/75-14-2-8/27

Polarographic Analysis of the Liquid Products of Nitration of Alkanes
With Nitrogen Dioxide

and 0.2 molar NaH_2PO_4 (pH 5-7) only one wave is observed ($\pi_{1/2} = -0.25$ to -0.3 v). The polarographic methods of analysis devised are described in detail, and the polarograms are reproduced. The following tables are contained in the paper: 1) half-wave potentials of RNO_2 , RONO , RONO_2 , HCHO and CH_3CHO with reference to a saturated calomel electrode (for an acid, neutral, and alkaline medium); 2) change of the height of the reduction wave of formaldehyde with respect to time in the following solution: 0.006 molar at HCHO , 0.002 molar at CH_3NO_2 and 0.13 molar at LiOH ; 3) results of the polarographical analysis of artificial mixtures of CH_3CHO , HCHO , $\text{C}_2\text{H}_5\text{ONO}$ and CH_3NO_2 in the absence of NO_2 ; 4) influence exercised by time beginning with the preparation of the mixture on the height of the waves; 5) results of the analysis of artificial mixtures in the

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SOV/75-14-2-8/27
Polarographic Analysis of the Liquid Products of Nitration of Alkanes
With Nitrogen Dioxide

presence of NO_2 . There are 7 figures, 5 tables, and 9
references, 4 of which are Soviet.

ASSOCIATION: Institut neftekhimicheskogo sinteza AN SSSR, Moskva
(Institute of Petroleum-chemical Syntheses of the AS USSR,
Moscow)

SUBMITTED: July 23, 1958

Card 4/4

40914

S/204/62/002/001/007/007

I032/I232

11.1260

AUTHORS: Topchiyev, A. V., Fedorova, T. V., Ballod, A. P., Shtern, V. Ya.

TITLE: The mechanism of interaction of alkanes with nitrogen dioxide in the vapor phase.
1. Kinetics and mechanism of the reaction of CH_4 with NO_2

PERIODICAL: Neftekhimiya, v. 2, no. 1, 1962, 71-90

TEXT: The reaction between CH_4 and NO_2 in the vapor phase was studied under initial pressure ranging between 10 and 600 mm Hg in the temperature range between 400° and 600°C on mixtures of compositions $2\text{CH}_4 + \text{NO}_2$ and $4\text{CH}_4 + \text{NO}_2$. The kinetics of the reaction were determined by the initial conditions of pressure and temperature. Accordingly, three types of reaction were observed: 1) A slow reaction. 2) A "cold flame" reaction. 3) An explosive reaction. The composition of the end products varied according to the course of the reaction. The slow reaction of CH_4 with NO_2 was established to be a first order reaction with an activation energy of 33.5 ± 1.3 K cal/mole. The effects of the addition of nitrogen to the reaction mixture, of the variation of the surface to volume ratio of the reaction vessel, of the nature of the reaction vessel surface on the reaction velocity were studied. The addition of nitrogen oxide to the reaction mixture slowed down the initial velocity of NO_2 consumption, while the addition of oxygen in no way affected either the reaction kinetics or the composition of the end products. The effect of addition of CH_3ONO and

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The mechanism of interaction...

S/204/62/002/001/007/007
I032/I232

of HCHO on the kinetics and the mechanism of the reaction was also studied. There are 13 figures and 7 tables. The main English language references are: Hass, Hodge, Vanderbilt, Ind. Engng. Chem. 28, 341, 1936; Hass, Patterson, *ibid.*, 30, 67, 1938; Seigle, Hass, *ibid.*, 31, 687, 1939; Hass, Alexander, *ibid.*, 41, 2266, 1949; Hass, Dorsky, Hodge, *ibid.*, 33, 1138, 1941; Bachman et al., J. Org. Chem., 17, 906, 1952; Bachman et al., *ibid.*, 17, 914, 1952; Bachman et al., *ibid.*, 17, 928, 935, 1952; Wayne, Iost, J. Chem. Phys., 19, 41, 1951; Rosser, Wise, *ibid.*, 24, 493, 1956; Steacie, Atomic and free radical reactions, Reinhold Publishing Corp., N. Y. 1954, p. 239. ✓

ASSOCIATION: Institut neft'khimicheskogo sinteza, AN SSSR (Institute of Petrochemical Synthesis, AS USSR)

SUBMITTED: January 9, 1962

Card 2/2

S/204/62/002/002/006/007
I060/I242

AUTHORS: Topchiyev, A.V., Ballod, A.P., Fedorova, T.V., and
Shtern, V.Ya.

TITLE: Mechanism of vapor-phase interaction of alkanes with
nitrogen dioxide. 2. Radical-chain reaction mechanism
of CH₄ with NO₂

PERIODICAL: Neftekhimiya, v.2, no.2, 1962, 211-228

TEXT: This article is a continuation of a paper published by
the same authors in the Neftekhimiya, v.2, no.1, 1962, 71. A low
probability exists for the reaction between methane and NO₂ by a mole-
cular mechanism. A radical-chain process is described for the reaction
of methane with NO₂. It is a branched chain reaction with relatively
weak chains and a high termination rate. Thus, when the termination

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I060/I242

Mechanism of vapor-phase interaction...

probability is higher than the probability of branching ($\beta > \delta$), the stationary regime of reaction takes place at a measurable rate (slow reaction). Because of considerable termination, the remaining chain is very short and the slow reaction occurs practically in the same way, as if it were a free-radical reaction. With an increase of temperature or pressure the conditions change into $\beta \leq \delta$, the regime of reaction becomes non-stationary and chain inflammation takes place. In mixtures very poor in NO_2 such a chain inflammation is of a cold nature and is not transformed into thermal inflammation. There are 1 figure and 2 tables.

Card 2/2

BALLOD, A.P.; GALANINA, N.I.; PATSEVICH, I.V.; TORCHILIN, A.V. [deceased];
YARIYUKOVA, A.M.

Using gas-liquid chromatography to analyze the liquid products of
the vapor-phase thermal nitration of propane and the products of
the reaction of methyl radicals with nitrogen peroxide. *Neftekhimiya*
2 no.6:924-927 N-D '62. (MIRA 17:10)

1. Institut neftekhimicheskogo sinteza AN SSSR.

GOL'DIN, S.A.; BALLOD, A.P.; SHTERN, V.Ya.

Spectroscopic study of the cold-flame glow appearing during
propane nitration by nitrogen dioxide. Dokl. AN SSSR 164
no.2:371-373 S '65. (MIRA 18:9)

1. Institut neftekhimicheskogo sinteza im. A.V. Topchiyeva
AN SSSR. Submitted February 22, 1965.

ROYZ, M.; ZALISSKIY, A. (Minsk); BALLOV, D.; LANG, N.

Using suggestions of efficiency promoters. Prom.koop. 12 no.4:28-29
Ap '58. (MIRA 11:4)

1. Nachal'nik proizvodstvenno-tekhnicheskogo otdela oblpromsoveta,
Poltava (for Royz). 2. Starshiy inzhener oblbytpromsoveta, Ryazan'
(for Ballov). 3. Artel' "Tekstil'shveypprom," Ivanovo (for Lang).
(Cooperative societies)

BALIOV, D.

Here they are making white felt boots. Prom. koop. 12 no.8:10
Ag '58.

(MIRA 11:9)

1. Starshiy inshener oblytpromsoyusa, g. Ryazan'.
(Boots and shoes, Felt)

Салов, Ф. В.

The Volga region "Pompei"; art and archeological research on the Saratov-Tsaritsyn right bank of the Volga zone Moskva, Gos. izd-vo, 1923. 131 p. and 12 pl.

Yudin DK30.B19

JURHÁSZ, Jeno, Dr.; BALÓ, József, Dr.; KENDRÉY, Gábor, Dr.

Experimental studies on the carcinogenic effects of isonicotinic acid hydrazide (INH). Tuberkulózis 10 no.3-4:49-54 Mar-Anr 57.

1. A budapesti Orvostudományi Egyetem, Kórház- és Kísérleti Rákkutató Intézet (igazgató Baló József dr. egyet. tanár) közleménye.

(ISONIAZID, tox.

tumor induction in mice (Hun))

(NEOPLASMS, exper.

induction by isoniazid in mice (Hun))

BALLOD, K. A.

O pod ezdneykh putiakh k Turkestano-Sibirskoi zheleznoi doroge. [On the branch
lines to the Turkestan-Siberian railway]. (Transport i khoz-vo, 1929, no. 6-7,
p. 146).
DLC: HE7.T68

SO: Soviet Transportation and Communications, A Bibliography, Library of Congress,
Reference Department, Washington, 1952, Unclassified.

BALLOD, K. A.

Karagandinskii kamennougol'nyi bassein i postroika zheleznoi dorogi Karaganda-Turksib. /Karaganda coal basin and the construction of the railroad Karaganda-Turksib/. (Severnaia Aziia, 1930, no. 1-2, p. 27-36).

DLC: H8.S4 Slav.

SO: Soviet Transportation and Communications, A Bibliography, Library of Congress Reference Department, Washinton, 1952, Unclassified.

BALLOP, K. A.

Kvoprosu o sooruzheniia IUzhno-Sibirskogoputi i Sibirskoi sverkhmagistrali. On the
question of constructing a South-Siberian route and the Siberian super-trunk line/.
(Sov. Aziia, 1930, no. 3-4, p. 44-56) Contents.-- The projects for Siberian super-
trunk lines, their importance for the development of the economy of Siberia and
Kazakhstan.

DLC: H8.S4 Slav.

SO: Soviet Transportation and Communications, A Bibliography, Library of Congress
Reference Department, Washington, 1952, Unclassified.

BALLOD, K.A.

Karagandinskii kamernougol'nyi bassein i novoe zhel-dor. stroitel' stvo.

[The Karaganda coal mining basin and the new railroad construction]. (Transport i khoz-vo, 1930, no. 4 p. 100-108).

DLC: HE7T68

SO: SOVIET TRANSPORTATION AND COMMUNICATIONS, A BIBLIOGRAPHY, Library of Congress Reference Department, Washington, 1952, Unclassified.

BALLOD, K. A.

Embenskie neftepromysla i postroika zheleznoi dorogi, Dossor-Tashkentskaia magistral'.
/Emba oil industry and the construction of a railroad, Dossor-Tashkend trunk line/.
(Transport i khoz-vo, 1930, no. 6-7, p. 50-52).

DLC: HE7.T68

-----Kproektu zheleznodorozhnoi linii Kustannai-Akmolinsk-Karaganda-Turksib.
/On the project for the railroad line Kustannai-Akmolinsk-Karaganda-Turksib/.
(Severnaia Aziia, 1929, no. 5-6, p. 47-53).

DLC: B8.S4 Slav.

SO: Soviet Transportation and Communications, "Bibliography, Library of Congress
Reference Department, Washington, 1952, Unclassified.

BALLOD, K. A.

Na puti razresheniya problemy stroitel'stva Kazakstanskikh zheleznykh dorog.
[On the way of finding a solution for the problem of railroad construction in
Kazakhstan]. (Sots. transport, 1931, no. 1-2, p. 160-172, sketch).

DLC: HE7.S6

Perpektivy razvitiia seti zheleznykh dorog v Kazakhskoi SSR. [Prospects for
the development of the railroad network in Kazakh SSR]. (Sots. transport, 1937,
no. 6, p. 75-81 map).

DLC: HE7S6

Proizvodstvennyi kompleks gorno-rudnogo Altaia i zheleznodorozhnoe stroitel'stvo.
[Industrial complex of the ore-mining Altai region and the railroad construction].
(Sots. transport, 1934, no. 1, p. 51-56).

DLC: HE7S6

Stroitel'stvo zh.-d linii v Zapadnom Kazakhstane. [Construction of a railroad
line in Western Kazakhstan]. (Sots. transport, 1937, no. 1, p. 76-80).

DLC: HE7.S6

Zheleznodorozhnaia set' Kazakstana vo vtorom piatiletii. [Railroad network of
Kazakhstan in the second five-year plan]. (Sots. transport, 1932, no. 7, p. 69-
75, map).

DLC: HE7.S6

SO: Soviet Transportation and Communications, A Bibliography, Library of Congress,
Reference Department, Washington, 1952, Unclassified.

BALLOD, K. A.

Dvinut' vpered avtomobilizatsiiu Kazakstana. [To advance the automobilization
of Kazakstan]. (Sots. transport, 1931, no. 7-8, p. 151-155).
DLC: HE7.S6

SO: Soviet Transportation and Communications, A Bibliography, Library of Congress,
Reference Department, Washington, 1952, Unclassified.

BALLOD, K.A.

Zhelezorudnye mestorozhdeniia Kazakstana i novoe zheleznodorozhnoe stroitel' stvo.
[Iron ore deposits in Kazakhstan and the new railroad construction]. (Sov. Azia,
1931, no. 11-12, p. 152-157). DLC: H8.S4 Slav.

Zheleznodorozhnyi transport Kazakstana vo vtorom piatiletii. [Railroad transportation
in Kazakhstan in the second five-year plan]. (Sot. transport, 1934, no. 4, p. 59-67,
map). DLC: HE7.S6

SO: Soviet Transportation and Communications, A Bibliography, Library of Congress,
Reference Department, Washington, 1952, Unclassified.

BALLOD, K. A.

K voprosu o pod" ezdneykh putiakh k Turksibu. [On the branch lines to the
Turkestan-Siberian railway]. (Sots. transport, 1933, no. 8, p. 59-65).
DLC: HE7.S6

SO: Soviet Transportation and Communications, A Bibliography, Library of Congress
Reference Department, Washington, 1952, Unclassified.

BALLOD, K. A.

Vozdushnyi transport Kazahstana. [Air transportation in Kazakstan. (Air lines)].
(Grazhdanskaia aviatsiia, 1934, no. 4, p. 9-12).

DLC: TL504.G7

SO: Soviet Transportation and Communications, A Bibliography, Library of Congress,
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Zheleznaia doroga Dzhezkazgan-Karaganda. / Railroad connection between Dzhezkazgan
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SO: Soviet Transportation and Communications, A Bibliography, Library of Congress
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DLC: TE4.D6

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SO: Soviet Transportation and Communication, A Bibliography, Library of Congress, Reference Department, Washington, 1952, Unclassified.

BALLOD, K.A.

Neobkhodima postroika linii Kandagach-Orsk. /The construction of the Kandagach-Orsk line is needed/. (Sots. Transport, 1938, no. 11, p. 85-88, sketch).

Discusses mainly the mineral deposits of the region as justifying construction.

DLC: HE7.S6

SO: Soviet Transportation and Communication. A Bibliography, Library of Congress, Reference Department, Washington, 1952, Unclassified.

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FIRSOVA, T.V., inzh., red.; SMIRNOVA, G.V., tekhn. red.; UVAROVA,
A.F., tekhn. red.

[Mechanic of an asphalt concrete plant] Mekhanik asfal'tobetonno
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1958. 96 p. (MIRA 11:12)

(Concrete plants--Equipment and supplies)

UNCLASSIFIED - CONFIDENTIAL - TOP SECRET - FRO

CONFIDENTIAL - TOP SECRET

AN ENGLISH AR - APR 1955

0136165-100-001-014-0049

ATTENTION: CONFIDENTIAL - TOP SECRET - FRO

TITLE: How the interaction between primary and secondary air flows affects the position of a flame

Source: Department of Energy, Vol. 1, 1955, pp. 1

NOTE: This is a translation of the original document, which is in English.

The purpose of this study is to determine the effect of the interaction between the air flows on the position of the flame. The study was conducted using a series of experiments in which the position of the flame was measured for different air flow rates. The results show that the position of the flame is affected by the air flow rate, and that the effect is more pronounced at higher air flow rates. The study also shows that the position of the flame is affected by the angle of the air flow, and that the effect is more pronounced at larger angles. The study concludes that the interaction between the air flows is a significant factor in determining the position of the flame, and that this interaction should be taken into account in the design of combustion systems.

gether with photographs of the flame, which given a good qualitative picture of the

Page 3

1. The first part of the report describes the results of the experiments carried out in the laboratory of the Ministry of Defense, which were aimed at determining the effect of the concentration of the fuel on the rate of combustion of the fuel. The results of the experiments show that the rate of combustion of the fuel increases with increasing concentration of the fuel. This is due to the fact that the rate of combustion of the fuel is determined by the rate of diffusion of the fuel into the flame zone, and the rate of diffusion of the fuel increases with increasing concentration of the fuel.

for powdered fuel and gas. (imp. art. has: 8 figures, 4 tables.

1. The first part of the report contains a description of the experimental work carried out in the laboratory of the Institute of Chemistry of the Academy of Sciences of the USSR.

2. The second part of the report contains a description of the experimental work carried out in the laboratory of the Institute of Chemistry of the Academy of Sciences of the USSR.

3. The third part of the report contains a description of the experimental work carried out in the laboratory of the Institute of Chemistry of the Academy of Sciences of the USSR.

4. The fourth part of the report contains a description of the experimental work carried out in the laboratory of the Institute of Chemistry of the Academy of Sciences of the USSR.

5. The fifth part of the report contains a description of the experimental work carried out in the laboratory of the Institute of Chemistry of the Academy of Sciences of the USSR.

VELVART, J.; BALLOG, O.

The effect of carbon disulfide on the development of atherosclerosis.
Pracovní lek. 13 no.4:184-186 My '61.

1. Klinika chorob z povolania v Bratislave, prednosta prof. dr.
Milos Nosal.

(ARTERIOSCLEROSIS etiol)
(CARBON DISULFIDE pharmacol)

KOLFSAR, Dusan; BALLOG, Ondrej; KUSKO, Jan

Possibilities of the use of fluorescence microscopy in the prevention of injury with ionizing radiations. Prac. lek. 16 no.10: 443-447 D ' 64.

1. Klinika chorob z povolania (prednosta prof. dr. M. Nosal) a Katedra lekarskej biochemie (veduci doc. dr. T. Tursky, CSc.) Lekarskej fakulty University Komenskeho v Bratislave.

KOLESAR, D.; BALLOG, O.

Fluorescence microscopic observations on the effect of occupational exposure to benzene on leukocytic nuclear changes. Bratisl. lek. listy 45 no.4:212-219 31 Ag '65.

1. Klinika chorob z povolania Lekarske fakulty Univerzity Komenskeho v Bratislave (veduci prof. MUDr. M. Nosal).

BALLON, Y. N.

V. E. Malakhovskiy, E. A. Sarkisyanitz and B. S. Gakhenson, B. A. Lyubimov and Y. N. Ballon, V. A. Degtyarev, B. I. Gostev and Y. Y. Zilberg, V. I. Novopolskiy, A. N. Shanoc and S. E. Ryskin, N. T. Nikitin, T. M. Chivarkov and A. N. Frolova, B. I. Shitov, N. A. Gladkov, A. P. Vladzиеvskiy, L. I. Komolov

Co-author with B.A. Lyubimov of the chapter "The Suspension System of the 'Belarus' Tractor" from the publication "Avtomobilnaya i traktornaya Promyshlennost" (Automobile and Tractor Industry) No. 1, January 1954, p. 8

BALLOVA, E.

Jan Halasa's Biele Karpaty (White Carpathian Mountains); a book review. p. 400

KRASY SLOVENSKA no. 10, Oct. 1955

Czechoslovakia

Source: EAST EUROPEAN LISTS Vol. 5, no. 7, July 1956

BALLOVA, E.

GEOGRAPHY & GEOLOGY

Periodicals: KRASY SLOVENSKA. Vol. 34, No. 1, 1957.

BALLOVA, E. Last year's successes invite further efforts. p. 2.

Monthly List of East European Accessions (EEAI) LC Vol. 8, No. 4, April 1959.
Unclass.

DALLOVA, E.

"Vladimir Adamec's Lyziarske tereny na Slovensku (Terrains for Skiing in Slovakia);
a book review.

P. 120 (Krasý Slovenska, Vol. 34, No. 3, Mar. 1957, Bratislava, Czechoslovakia)

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Nov. 1958

BALLOVA, E.

"Knowing our own country."

p. 242. (Chesky Lid., Vol 34, No. 7, 1957, Prague, Czechslovakia)

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BALLTA, I.

Irrigation and the removal of weeds in the rice fields of Vurk. p. 3.

Vol. 9, no. 7, July 1955
PER BJUQESINE SOCIALISTE
Triane, Albania

So: East European Accession Vol. 5, No. 4 April 1956

BALLY, D.

"Research on the physics of solids connected with Soviet work", p. 371.
"Issued by the Rumanian Society of Mathematics and Physics, Monthly."
(GAZETA MATEMATICA SI FIZICA, SERIA A., Vol. 6, no. 8/9, Aug./Sept.
1954. Bucuresti, Rumania.)

S0: Monthly List of Eastern European Accession, (BEAL), LC, VOL. 4, no. 5
, May 1955.

BALLI, D.

USSR/Physics

Card : 1/1

Authors : Balli, D., and Zakharova, M. I.

Title : Investigation of the structure and properties of Cu-Ni-Fe alloys

Periodical : Dokl. AN SSSR, 96, Ed. 4, 737 - 740, June 1954

Abstract : The structure and properties of ten Cu-Ni-Fe alloys, with varying copper, nickel and iron contents, were investigated. A comparison of the x-ray-analysis results, with the data of the measured coercive force and Curie point, showed that nuclei of new phases and non-equilibrium composition are formed in the basic crystalline lattice, during the initial stages of decomposition of the solid solution. The main role in this period is played by stresses of the third order and the coercive force reaches values of tens of Oerstedts for a majority of the alloys. Two references. Tables, Graphs.

Institution : The M. V. Lomonosov State University, Moscow, USSR

Presented by: Academician G. V. Kurdyumov, March 4, 1954

evaluation B-82533

BALLY, D.

H-9

ROMANIA/Electronics - Vacuum Technique

Abs Jour : Ref Zhur - Fizika, No 7, 1958, No 16124

Author : Arcan L., Bally D., Birsan I.

Inst : Not Given

Title : Magnetic Manometer for Large Range of Pressures

Orig Pub : Studii si cercetari fiz., 1957, 7, No 1, 85-89

Abstract : Description of a magnetic manometer, whose operating principle is analogous to the Penning manometer, but having several advantages over the latter, namely an increased sensitivity (thanks to a considerable increase in the mean free path of the electrons), a larger range of measured pressures (10^{-4} to 10^{-8} mm mercury). The higher sensitivity of the manometer makes it possible to use it as a leak detector in vacuum apparatus.

The manometer is a diode having electrodes of special construction. The anode is a filament located along the axis of a cylindrical cathode. The space between the two is subdivided into several sections by means of disks (0.1 mm thick)

Card : 1/2

ROMANIA/Electronics - Vacuum Technique

H-9

Abs Jour : Raf Zhur - Fizika, No 7, 1958, No 16124

with round central openings. Under the action of the applied electric field (several kilovolts), the electrons are torn off from the edges of the holes and are accelerated towards the anode. However, as a result of the deflecting action of the magnetic field, the electrons penetrate into the space between the plates, where they oscillate about the anode. In this case the probability of collisions between the electron and the gas molecules increases. After many collisions, the electrons lose their energy and are captured by the anode.

The manometer connected in the circuit will measure the current $i = i_e + i_i$, where i_e is the current produced by the electrons trapped by the anode (which is a constant quantity for a specified accelerating voltage) and i_i is the current of the positive ions falling on the cathode. Within the interval of the measured pressures, the current i depends on the number of collisions between electrons and gas molecules and is proportional to the gas pressure.

Card : 2/2

? 6

Distr: 4E20/4E3d

Magnetic properties of some copper-nickel-iron alloys

Dr. Bally and Al. Glodanu, Acad. rep. populare Romania

Rev. de atomica si ind. nr. Studi cercetari ps. 8, 445-55

(1957) (Russian and French summaries).--An investigation

of the correlation between changes in crystalline structure

and modification of magnetic properties of four Cu-Ni-Fe

alloys. The variation of coercive force, remanence, and

Curie point with the duration of isothermal treatment is

shown in a portion of the equil. diagram where structure

changes are known. The alloy samples were isothermally

treated at 550° for 800 hrs., and their coercive force, rema-

nence, and Curie point measured after 20-hr. treatment inter-

vals at the end of which they were tempered. Measure-

ments were done by a standard ballistic method with mag-

netic fields up to 2300 oersteds. The remanence increases

with the duration of isothermal treatment and attains val-

ues between 395 and 942 gauss for the various alloys and

after 300-400 hrs. of treatment. The remanence values are

detd. for a given concn. of Ni, by the relative Fe/Cu

concn., and they increase when the latter decreases. The

coercive force increases also with treatment time to attain

max. values of from 110 to 360 oersteds, according to alloy

compn., after about 500 hrs. of treatment. It varies linearly

with the dimensions of the deformation centers of the initial

crystal structure. There exists a relative Fe/Cu concn.

interval, for a given concn. of Ni, in which the coercive force

is max. In all cases the Curie point moves higher with

treatment time to remain unchanged after 40 hrs. This

shows substantial variations in concn. to take place only at

the beginning of the isothermal treatment. M. Fojtlik

RUMANIA/Solid State Physics - Phase Transitions in Solids

E-6

Abs Jour : Raf Zhur - Fizika, No 7, 1958, No 15618

Author : Bally D., Croitoru N., Teodorescu I.

Inst : Not Given

Title : Investigation with the Aid of an Electron Microscope of the Structure of Magnetic Alloys (Cu-Fe-Ni Alloys).

Orig Pub : Bul. stiint., Acad. RPR, Sec. mat. si fiz., 1957, 9, No 1, 193-200

Abstract : An electron microscope was used to investigate the phase transformation in magnetic alloys Cu-Fe-Ni in isothermal tempering. Six specimens of different composition were investigated. At a temperature of approximately 600°C, all specimens have a biphasic structure, both phases having a crystalline structure -- a face-centered cubic structure. The biphasic structure was obtained also at 550°C. It is found that continued working at 1000°C does not lead to complete homogenization of all the alloys. The Debye-Scherrer diffraction patterns show a monophase structure. The coercive force in this case is approxi-

Card : 1/2

- RUMANIA/Solid State Physics - Phase Transitions in Solids

E-6

Abs Jour : Ref Zhur - Fizika, No 7, 1958, No 15618

mately one oersted and is apparently independent of the presence of inhomogeneties in the composition. Prolonged working at 550°C leads to a decomposition of the crystalline lattice and to the appearance of crystallites of platelet form. The dimension of the platelets reach approximately 1000Å. The coercive force increases thereby. Prolongation of the working at 550°C to 400 or 500 hours leads in all cases to the appearance of a pronounced biphasic structure. Bibliography, 7 titles.

Card : 2/2

RUMANIA/Solid State Physics - Phase Transitions in Solids.

E

Abs Jour : Ref Zhur Fizika, No 10, 1959, 22623

Author : Bally, D., Maris. C.

Inst : Institute of Atomic Physics, Bucharest, Rumania

Title : On the Decay of Certain Alloys Cu-Mi-Fe. X-Ray Investigation.

Orig Pub : Rev. phys. Acad. RPR, 1958, 3, No 1, 33-44

Abstract : An x-ray investigation (together with a partial electron microscopic and magnetic investigation) was made of four alloys with composition CuNiFe in the concentration interval of 49.05 - 53.29% copper, 9.92 - 29.49% iron and 28.23 - 40.389 nickel. The alloys were subjected to prolonged annealing (129 hours at 550°C and 172 hours at 600°C). The positions of the principal lines of the satellites were determined, the change in the intensity

Card 1/2

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RUMANIA/Solid State Physics - Phase Transitions in Solids.

E

Abs Jour : Ref Zhur Fizika, No 10, 1959, 22623

and the widths of the maxima were determined.
Essentially, the Hargreaves hypothesis was confirmed
(Hargreaves M.E., Acta. Crystallographica, 1951, 4,
301) concerning the deformation of the lattice in decay.
A hypothesis is raised concerning the asymmetry of the
deformation centers.

Card 2/2

BALLY, D.; GLODIANU, A.

Magnetic properties of some Cu-Ni-Fe alloys. In Russian. p. 129.

REVUE DE PHYSIQUE. JOURNAL OF PHYSICS. (Academia Republicii Populare Romine)
Bucuresti, Rumania. Vol. 3, no. 2, 1958.

Monthly List of East European Accessions (EEAI) IC, Vol. 8, no. 7, July 1959.

Uncl.

19 6

Neutron crystal spectrometer of the Institute Atomic Physics Bucharest, D. Balu, E. Tarina, S. Todoreanu, and I. Olteanu. *Acad. rep. populare Romine, Inst. fis. at. IFA/FN/20*, 9 pp.(1959)(in English).—The instrument employs either a plane or bent crystal. In the former modification the resolving power is 0.53 μ sec./m. with a cleavage plane of calcite. In the bent-crystal modification the resolving power is 1.23 μ sec./m. for the (1010) planes of quartz. The min. Bragg angle that can be clearly observed with the plane crystal corresponds to 5.5 e.v.; with the (1340) planes of quartz this is extended to 38 e.v.

T. A. Eastwood

BALLY, D.; TARINA, E.; TODIREANU, S.; OLTEANU, I.

Neutron crystal spectrometer of the Institute of Atomic Physics of
the Rumanian Academy. Studii cerc fiz 11 no.1:69-76 '60. (KEAI 10:1)
(Rumania--Spectrometer) (Neutrons) (Crystals)

BALLY, D.; BENES, L.; ILIESCU, N.; IORGULESCU, St.; OLTEANU, I.

Characteristics of a universal X-ray tube. Studii cerc fiz 12
no.2:461-467 '61.

1. Institutul de fizica atomica Bucuresti.

(X-ray tubes)

38446
S/089/62/012/006/009/019
B102/B104

26 2245
AUTHORS:

Bally, D., Gheorghiu, Z., Stadnikova, T.

TITLE:

Total neutron cross sections for As, Se, Sb, and Te in the energy range 0.0027 - 0.0100 ev

PERIODICAL:

Atomnaya energiya, v. 12, no. 6, 1962, 514 - 519

TEXT: The cross sections measured by the authors have hitherto been studied only in the range $E_n > 0.01$. The measurements were made with and without a second collimator and using a neutron crystal spectrometer with a plane mica single crystal. An LHM-8 (SNM-8) counter filled with BF_3 was used as detector. The resolution $\Delta\lambda/\lambda$ of the instrument with two collimators was 0.015. The specimens were relatively pure, except Sb which contained about 1% impurities. Grain size varied between 0.8 and 50 μ . $\sigma = f(\lambda)$ is illustrated graphically. (1) As: The total scattering cross section was calculated by assuming 5 barns for the coherent scattering absorption cross sections for neutrons with 2200 m/sec were assumed to be 4.3 and 4.9 barns. (2) Se: The results are consistent with those of Card 1/2

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